

Sentinel Detection Methods and Chemical Decontamination Health Risk Key Components of EPA's Safe Building Program

Authors: Gary Hatch, Kevin Dreher

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SENTINEL DETECTION RESEARCH: A wide variety of toxic industrial chemicals or warfare agents could be used in terrorist attacks. Chemical and electronic detectors have been developed for several of these agents, however, the most time-honored procedure is the use of sentinel animals. This project will provide information on the use of sentinel species and provide guidance on the inclusion of sentinel animals into U.S. bioterrorism monitoring protocols.

CHEMICAL DISINFECTANT HEALTH RISK RESEARCH: Decontamination of buildings with chemicals, such as ClO₂ used to kill anthrax spores, has demonstrated our limited knowledge regarding potential health risks associated with public exposure to low levels of chemical disinfectants. The OSHA recommended exposure limits (REL) are currently being employed as the safe exposure level for ClO₂. However, the OSHA ClO₂ REL is based upon limited and accidental inhalation exposure information. In order to make scientifically sound decisions on public health risk, environmental clearance committees responsible for re-occupancy of decontaminated buildings must be provided with the most current, comprehensive, and accurate information that can be obtained regarding "safe" public exposure levels to ClO₂.

SENTINEL DETECTION RESEARCH: A workshop will bring together interested scientists and provide information on the use of sentinel animals in U.S. disaster protocols.

CHEMICAL DISINFECTANT HEALTH RISK RESEARCH: In vitro and in vivo toxicological and toxicogenomic approaches will be employed to assess the relative pulmonary toxicity in animals following inhalation exposure to low levels of ClO₂.

SENTINEL DETECTION RESEARCH: Leadership provided by the EPA toxicology and ecology laboratories will provide a current status report on appropriate uses for sentinel animal species in terrorist attacks. Such information should be immediately useful to first responders, and also identify areas where further research is needed.

CHEMICAL DISINFECTANT HEALTH RISK RESEARCH: By providing contemporary, sensitive and comprehensive information on the pulmonary health effects of ClO₂ at and below the NIOSH REL this project will meet the needs of the following customers: OWSEER; building managers and environmental clearance committees; and US EPA, OPP.

Contact Information: Gary Hatch
Research Scientist
ORD/RTP/NHEERL
919-541-2658 or -3691
hatch.gary@epa.gov

Kevin Dreher
Research Scientist
ORD/RTP/NHEERL
919-541-3691
dreher.kevin@epa.gov